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ABSTRACT

This practicum addresses the lack of participation, background knowledge and feeding techniques by parents, teachers and aides (feeders) at the Association for Retarded Citizen's (ARC) preschools and intervention programs in Palm Beach County (Florida). Three feeding workshops were presented to improve knowledge and feeding techniques of parents, teachers, and aides in a preschool program for physically handicapped students. The workshops centered on normal feeding development, abnormal feeding development, and techniques for feeding the physically handicapped child. Thirty feeders completed questionnaires four weeks after the last feeding workshop. One hundred percent of the feeders noted some improvement in the feeders' skills and the child's eating skills, 80% found improvement in all areas listed on the questionnaire, and 54% of the children's skills improved in all areas listed on the questionnaire. The low percentage of improvement in the children's eating skills was attributed to insufficient time allowed for progress to be observable. All the feeders requested future demonstrations and sessions on feeding skills for the physically handicapped. (Author/CL)

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Feeding Workshops for Feeders of Physically Handicapped Infants and Preschoolers

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N O V A U N I V E R S I T Y

Feeding Workshops

for

Feeders Of Physically Handicapped

Infants And Preschoolers

Practicum I Submitted To The Faculty Of The

Early Childhood Education Program

In Candidacy For The Degree Of

Doctor of Education

By

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Abstract

Feeding Workshops For Feeders of Physically Handicapped Infants And Preschoolers
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Ed.D. Early Childhood Education Program
Descriptors: Early Childhood/Feeding/Infancy/Neurological Impairments/Physically Handicapped/Special Education/Speech Handicaps/Speech Therapy

This practicum addresses the lack of participation, background knowledge and feeding techniques by parents, teachers, and aides (feeders) at the Association for Retarded Citizen's (ARC) preschools and intervention programs in Palm Beach County. This problem was indentified in three ways: 1) the author's observation of children being fed at the ARC preschools, 2) a questionnaire to feeders, and 3) a survey to the supervising teachers at the four ARC preschools.

The author's goals were for feeders to properly feed the physically handicapped infants and children in the ARC programs. In order to achieve this goal the feeder must be aware that a feeding problem exists, be able to indentify the feeding problem and learn how to solve the feeding problem. In order to resolve this problem the author implemented three feeding workshops that focused on: 1) normal feeding development, 2) abnormal feeding development, and 3) techniques for feeding the physically handicapped child.

Thirty feeders filled out questionnaires four weeks after the last feeding workshop. One hundred percent of the feeders noted some improvement in the feeders' skills and the child's eating skills, 80% of the feeders found improvement in all areas listed on the questionnaire, 54% of the children's skills improved in all areas listed on the questionnaire. The low percentage of improvement in the children's eating skills was attributed to insufficient time allowed for progress to be observable. All the feeders requested future demonstrations and sessions on feeding skills for the physically handicapped child.

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Introduction

Chapter One

A. Author's Work Setting, Role, Responsibilities

The Association for Retarded Citizens (ARC) in Palm Beach County is a private, non-profit organization who services infants and preschoolers who are diagnosed as physically handicapped, mentally retarded, or high risk. In addition, ARC provides programs for mentally or physically handicapped adults over the age of eighteen. These programs available through ARC are necessary since they are the only agency in Palm Beach County which provides services for this population, according to the ARC program manual.

There are two services available for the infants and preschoolers. One is the Infant Intervention Program. This program was implemented for the purpose of home training for developmentally delayed infants (birth to 2 years) in Palm Beach County.

At present there are 37 infants enrolled in the program. An infant specialist, referred to as an Infant Trainer, visits the homes of the infants or sees them in a small group at an ARC preschool once per week. The purpose of the service is to teach parents how to stimulate the child's development in the areas of

self-help, motor development, language training and behavior modification techniques. The parent then works with the child on the goals established by the Infant Trainer on an on-going basis.

The Infant Coordinator is the overseer of the Infant Intervention Program. She is in charge of supervising and hiring Infant Trainers as well as assisting hospitals and other community agencies to increase infant referrals, make appropriate referrals to other agencies, attend staffings of infant program children who are being considered for preschool placement at age two, present inservice programs for Infant Trainers and assist the executive director in grant proposal and program changes.

Another service ARC provides is the Preschool Program. Upon reaching the age of two, the children enter one of four preschool developmental centers in Palm Beach County. The child attends the preschool closest to his residence. It is not necessary to attend the Infant Intervention Program prior to the Preschool Program.

Currently the ARC preschools serve 57 children. Children who live in Boca Raton, Delray Beach, and Boynton Beach attend the First Presbyterian Church in Boynton Beach. Children residing in Lake Worth and West Palm Beach attend the St. Juliana's Church in West Palm Beach. Children from Lake Worth, Greenacres, and southern West Palm Beach attend the Free Methodist Church in Greenacres. Those children who live north of West Palm Beach

attend school at the Immanuel Presbyterian Church in Lake Park. Each preschool is housed in a church. The churches allow the schools to utilize the space free of charge. ARC is responsible for cleaning, maintaining, and the electricity consumed by the school. The Board of Education in Palm Beach County provides lunches for the children at a $1.50 per lunch. Those children that can afford the lunches pay for them. Those children unable to pay for the lunches are paid for by the Health and Rehabilitative Services (HRS). Similarly HRS is required to pay for each child's tuition at the Infant Intervention Program and the Preschool Program regardless of income.

The ARC program manual states that the goal of the preschool developmental program is to give the mentally retarded, physically handicapped, and/or high risk child "the opportunity to reach his or her maximum potential in life through early stimulation." Four areas of concentration are stressed in each child's Individual Education Plan (IEP): language skills, self-help skills, motor skills (fine and gross), and pre-acedemic skills.

Each of the four schools is staffed with four instructional aides, one supervising teacher, one bus driver and a volunteer program; in addition to two social workers and a program coordinator for all four schools. Each school consists of 12 to 17 children.

The responsibilities of the instructional aides is to carry out planned lessons under the direction of the supervising teacher, participate in all aspects of lunch (including preparation, clean up and feeding), physical care of children (including diapering, toileting, grooming, and self-help skills). The turn over of instructional aides is high due to low salaries and the high level of responsibility.

The supervising teacher is required to plan parent meetings every three months, contact the social worker concerning client's needs, plan field trips and lunch schedules, send notices to parents, contact the public schools for placement, supervise instructional aides as well as administrative responsibilities.

The program coordinator is the overseer of the entire preschool program. She is involved with the consultation of teachers regarding the development and implementation of the IEP's, the needs of the program, learning and behavioral problems of the preschoolers, the provision of materials needed for effective teaching as well as monitoring and evaluating the program and staff, hiring instructional aides and supervising teachers, updating the program manual, and planning workshops.

The social worker is in charge of: processing referrals by follow-up home visits; determining eligibility; making preschool placement; collecting medical, social, psychological, and educational reports; attending IEP staffings and parent

conferences; assisting parents in arranging medical appointments and transportation, if necessary.

The author of this practicum is a speech pathologist who has been working with a physically and mentally handicapped population (cerebral palsy, Down's Syndrome, rare syndromes i.e., Mobius Syndrome, Treacher Collins, etc.) for eight years.

Initially, from 1971 to 1978, the author was employed at United Cerebral Palsy of Staten Island, New York. She was a member of an interdisciplinary team consisting of a teacher, physical therapist, occupational therapist, psychologist, nurse, biofeedback engineer, and was in close contact with the neurologist and orthopedist. This environment lead to the concept of working with the whole child and learning to apply related therapeutic techniques in conjunction with speech therapy. A true understanding and background information for working with the handicapped population especially the preschoolers and infants was obtained.

In 1978, the author completed the Neurodevelopmental Training eight week course which strengthened already learned concepts pertaining to the handicapped early childhood population especially in the areas of physical therapy techniques, relaxation, facilitation, respiration, and feeding. In the summer of 1981, the Neurodevelopmental Advanced Speech Workshop was taken by the author. The course stressed the assesment and

feeding techniques for the physically handicapped infant and young child, as well as communication techniques during mealtime.

In 1980, the author relocated to South Florida. She was surprised to find that the interdisciplinary approach did not exist in Broward or Palm Beach Counties for the physically handicapped population, mainly due to financial difficulties. The author was privately contracted to perform speech therapy services for the physically and mentally handicapped preschoolers and infants at the ARC preschool and infant intervention programs through funding provided by HRS. Due to financial deficits HRS discontinued this service twice in the past two years. The payments were reinstated in July or September when grants were reissued.

The Palm Beach Board of Education, through Child Find, also provided speech therapy as well as physical therapy to the ARC preschools in Palm Beach County since 1980. The physical therapist and speech therapist visited each school once per month which was not sufficient for the needs of the children or teachers. As of June, 1983, this grant will be discontinued and not reissued, therefore the only therapy provided to the ARC preschools will be through private therapists.

Many of the children are entitled to 80% reimbursement for therapy services through private health insurance. Those on Medicaid or Social Security Insurance (SSI) can obtain physical

and speech therapy through Children Medical Services but must be transported to Crippled Children's Hospital for these services.

The author presently provides individual speech therapy to 19 children in the infant and preschool ARC program. Fifteen of the 19 children are reimbursed by health insurance. The children are seen for 30 to 45 minutes once or twice per week. There is close contact with the parents and teachers in order to carry over the therapy goals in school and at home.

In addition, other children are evaluated in order to aid the teachers in setting up a language and feeding program at school. The author also presents workshops and inservices for teachers and parents as well as suggestions for IEP's, staffings and parent conferences.

B. Description of the County

Palm Beach County consists of a flat terrain, situated in the southeastern part of Florida. It is approximately 2,023 square miles in area. Palm Beach County is bordered by the Atlantic Ocean on the east, Broward County on the south, Hendry County and Lake Okeechobee on the west and Martin County on the north.

The census for 1980 indicates a population of 576,863 for Palm Beach County. The population grew by two-thirds in a ten year period of time. According to the University of Florida (1981), Palm Beach County lead all Florida counties in growth and received about 105 new residents each day.

Racially, the White population grew 70%. According to the 1980 Census, the White population comprises 85% of Palm Beach County. The proportion of Blacks in the county has declined from 17.5% to 13.41% in 1980. American Indians, Asians and other races account for less than 1/2% of the total Palm Beach County population (Area Planning Board, 1982).

The population in Palm Beach County is growing older. The 1980 Census for Palm Beach County states that three out of 10 people in the county are 60 years old and only one in five is under 18.

The Chamber of Commerce of Palm Beach County states that the socioeconomic level of Palm Beach County residents runs the gamut of low socioeconomic levels to the highest socioeconomic levels.

Study of the Problem

Chapter Two

A. The Problem

There are four Palm Beach County preschools for the retarded and physically handicapped funded by the Association for Retarded Citizens. Each school contains children with feeding problems. The teachers, aides, and parents are responsible for feeding these children although they never received training in this area. This lack of training became more apparent during lunch time at the Association for Retarded Citizen's (ARC) preschools. The children were not positioned properly. Therefore abnormal or primitive patterns were elicited, making feeding more difficult. Some children were fed with their bodies in an extensor pattern causing their arms, legs, and trunk to stiffen, their head extended back and their tongue protruded. This is the pattern which allows a child to be "bird fed." Most of the food given to this child may have been pushed back out with his tongue. This child may have been receiving poor nutrition during mealtime (Denhoff & Denhoff, 1978). Parents and staff ground or mashed table foods to avoid choking and minimize chewing. Many of these children did not chew their food but mashed it with their tongue. Tables, bibs, and floors were very messy after lunch time due to the poor feeding patterns and lack of knowledge on the teachers and parents part of how to improve the present state of affairs.

During individualized therapy sessions and evaluations, parents answered questions pertaining to feeding making the following statements: "I grind my child's food because I don't want him to choke.", "He coughs and chokes a lot on food.", "I feed him on my lap (4 year old) because he can't stay in a chair.", "He cries often during feeding time.", "I feed him before the rest of the family since he is such a sloppy eater.", "It takes 10 to 15 minutes to feed him with his head back.", "I feel he should eat table foods so I put it in the food processor since he cannot chew.", "When he sticks his tongue out several times, I know he is full.", "He cries at the end of the meal, when I try to give him more he sticks out his tongue or bites on the spoon."

The parents may have been misreading these children's cues in the above statements. This also occurred often at school. There was a lack of communication/interaction between the child and the feeder (Morris, 1981). The child may have cried at the end of the meal because he was still hungry and the food was being put away. The child's tongue protruded as part of a total reflex pattern (total extensor pattern) and therefore he could not sit in a regular chair. His head extended back was also due to a total body pattern. This extensor pattern often leads to a posturing of the head (extended back) causing the feeder to bird feed the child. In this feeding pattern the food is dropped or

poured down the throat. The child might choke easily when fed this way or aspirate food or liquid (the food enters the lungs instead of the esophagus in route to the stomach). The child may not be receiving proper social stimulation if fed before the rest of the family. This often occurred since food and saliva may be constantly pushed out of the child's mouth when eating, it is sloppy and unpleasant to look at (McCracken, 1978).

Many of the children in the ARC preschools were given pureed foods up to the ages of five and six. These children should have been introduced to solids at an earlier age (Morris, 1982). When children are fed in therapy, positioned properly and utilizing appropriate feeding techniques, better feeding patterns emerge. There is less tongue thrusting, less loss of food and saliva. The feeding process is not as messy. The child appears to be happier and the parents and teachers are amazed that the child is capable of chewing solid foods. In addition, there is a general improvement in nutrition.

The difficulties with the feeding techniques demonstrated in the past two years were the parents', teachers' and aides' lack of background knowledge regarding cerebral palsy and normal feeding development. The feeders tried to memorize techniques without developing a true understanding of the purposes and desired outcomes. In addition, the feeding techniques were then generalized from other children who required a different method

of feeding. At times, the feeders (aides, parents, teachers, etc.) would become intimidated. They did not feel they were adequately trained or had sufficient background to feed the physically handicapped child appropriately. Another difficulty encountered was the turnover of staff. A teacher or aide may be in the school for a few months and then moved on to another job which offered higher pay.

It is also difficult to get parent's cooperation to come to learn and observe feeding techniques especially for those parents who have younger children at home or those that work. Therefore, there is usually a poor turnout of parents at the workshops.

The population of children with a feeding disorder at the ARC infant intervention program and preschool program range in age from infancy to 6 years. They range from normal motor skills to severe motor involvement. Intellectually they range from normal intellectual functioning to profoundly retarded.

Therefore, the author has concluded that there was a lack of participation, background knowledge and ability to use proper techniques by parents, teachers and aides (feeders) in regard to feeding practices at the ARC preschools and infant intervention programs in Palm Beach County.

B. The Problem Exists

The lack of proper feeding techniques was obvious upon observation of how the children were fed. There was often choking and coughing during snack and lunch time at the ARC schools. The children were not positioned properly with their heads and trunk in midline. This alone would improve feeding skills by breaking up total body patterns, i.e., the entire body is extended; legs crossed and stiff, feet pointed, hands fisted, arms stiff, head back, mouth open, and tongue protruded (Davis, 1978). Many of the children consumed pureed foods or junior foods. Much of the food was pushed out of the child's mouth due to drooling and/or a tongue thrust. Some of the children refused to eat food in school and/or drink liquids. Parents as well as teachers complained that the child disliked eating or asked for help and suggestions to improve the child's feeding skills.

A questionnaire was given to teachers, parents, aides, as well as other feeders who feed the children at the ARC infant intervention program and preschool program (see Appendix B). Out of the 51 questionnaires distributed 39 were returned. Of the 39 questionnaires only 1 indicated a lack of interest in all aspects of the feeding workshops going to be presented in the fall. Therefore, approximately 75% of all those given a questionnaire showed an interest in the feeding program. All but one feeder for the handicapped were interested in some aspect of

the feeding program for the physically involved child.

The supervising teachers in each of the four preschools were asked nine questions over the telephone related to feeding in the schools (see Appendix C). The teachers reported 75% to 99% of the children in the four schools possessed a feeding problem which ranged from a behavior problem (two cases) to severely involved cerebral palsied children who could not chew, choked when given liquids and have a pronounced tongue thrust thereby pushing all food out of the mouth.

Approximately 50% to 80% of all the parents of the children with feeding problems have asked for suggestions perbaining to feeding techniques.

One hundred percent of all the supervising teachers felt a feeding program would be beneficial to the parents, aides and teachers.

Videotapes of teachers and parents feeding three children in each of the four schools clearly demonstrated many of the problems these children possess during eating as well as the lack of proper feeding techniques displayed by the feeders.

C. Analysis of the Problem

The staff at the ARC programs had never received any formal training in feeding techniques for the physically handicapped child.

Parents who did get some training feeding in therapy at another facility through their physical or occupational therapist felt that it was too technical and it was the therapist's job. These parents assumed they did not know enough or have a sufficient background to know what to do or how to do it.

Another problem which arose with the feeding techniques were that the results are not immediate, it may take six months before a noticeable difference is observed. McCracken (1978) discusses noticeable differences in an intensive program requiring two years. Also parents were not sensitive enough to pick up small steps of progress.

Parents of the younger children or those children with mild to moderate feeding problems may not have been aware that a feeding disorder existed. These parents were not familiar with the stages of normal feeding development as they are with the stages of normal speech and motor development.

Some of the children, especially those in the infant intervention program, have serious medical problems or are tube fed babies. These parents were not as concerned with the child's feeding patterns at this time as they are with the child's other

health problems. In addition, these parents were not aware that the longer they wait to introduce solids or get the child used to foods orally, the harder it will be in the future (Morris, 1982).

Many parents and teachers were fearful that the child would choke if given solid foods. When these parents did attempt to give solids, the child did choke. The parents assumed this indicated the child was not ready for solids. Although once again the longer solids are witheld the more the child will choke and gag when they are presented.

Another cause of the absense of a proper feeding program for the physically handicapped is the staff turnover. Since the salaries are so low, teachers continue on at the ARC preschools until they return to school or another higher paying position becomes available. Therefore, their knowledge goes with them and the therapist must train a new staff member.

Similarly, children may stay in the program for a short time then the family relocates. Therefore the parents started a feeding program which could not be completed.

Parents attendance to workshops or individual sessions in the past was poor due to a variety of reasons:

1. no transportation
2. the parents both work
3. younger siblings at home
4. lack of interest

D. Relationship of the Problem to the Literature

There are very few articles pertaining to the feeding skills of the physically handicapped infant and child within the last five years. The author came across six such articles. The most up to date and clearly written information for teachers and therapists may be found in text book form (Davis, 1978; Click, 1982; Morris, 1975, 1977, 1981, & 1982). There is a limited amount of information available to parents and aides on feeding techniques for the physically handicapped child since a background in cerebral palsy and/or physical therapy is necessary. The following authors may be good reference material for parents, aides, and teachers: Wilson (see Appendix D), Morris, 1977, and Davis, 1975 (see Bibliography).

Cerebral Palsy was first identified in 1861 by Dr. W.J. Little and it was originally referred to as Little's Disease (Wolfe, 1959). Phelps is known for giving this disorder its univerally accepted name "Cerebral Palsy" (Crickmay, 1975). It wasn't until 1925 when Muysken discussed reflexes and its relationshiop to cerebral palsy and speech disorders (Palmer, 1947). In 1933 and 1941, Froeschels and Jellinek studied chewing and speech production in cerebral palsy (Palmer, 1947).

In the 40's and 50's, the Bobaths' made a major contribution in techniques for working with cerebral palsied individuals. They originated the neurodevelopmental treatment approach for cerebral

palsy in London, England. It is one of the most commonly used method's today (Bleck, 1978). Bleck describes the Bobath technique as one which "inhibits abnormal reflex activity and facilitates normal automatic movement."

Many therapists; occupational, speech, and physical, are involved with administering therapy to cerebral palsied individuals since it is a neurological disorder caused by damage to the brain resulting in a loss of muscular control as well as a variety of other specific disorders (Crickmay, 1975). Connor (1978) discusses the interdisciplinary or multiprofesional approach in terms of "transdisciplinary" which permits one person to carry out the handicapped individual's necessary services under the supervision of specialists from other fields or disciplines. This is the method which the author wishes to use when setting up a feeding program in the ARC programs in Palm Beach County.

There are many techniques utilized in feeding therapy. One is the Bobath's technique which has been described by many authors: Mueller (1975), Morris (1975, 1977, 1981, 1982), Davis (1978), etc. This technique follows the normal developmental scales for feeding. The therapist elicits normal feeding patterns therefore reducing abnormal feeding patterns.

Another approach was developed by Rood. Her approach involves the activation of muscles through sensations of heat,

cold, and brushing (Bleck, 1975). Bleck also mentions other approaches, i.e. Fay-Doman, Phelps, Deaver, Kabat, Knot, and Eclectic.

The Fay-Doman method relies on the theory that the basic patterns of movement progress from the evolution from fish to amphibian to reptile, and lastly, anthropid. Their treatment program follows this evolutionay development. Their method is patterning exercises starting with swimming motions and progressing to cross-pattern creeping, and so on. They believe the brain stem is comprised of evolutionary layers, starting from lower cortical levels (medulla) and progressing to higher cortical levels (cerebral cortex).

Whereas Phelps and Deaver facilitate movement through exercise, relaxation and the practice of walking activities, i.e. in parallel bars, wheelchair transfers with braces and/or crutches. Kabat and Knott use therapeutic exercise that increases voluntary control by increased brain excitation.

The Eclectic method is a combination of techniques utilizing whatever works and what is necessary for each child according to the extent and nature of his disability and developmental age. Bleck states that the Eclectic method is the therapy technique he has observed in most physical therapy units.

McCracken (1978) discusses a drool control and tongue thrust therapy which utilizes mainly a Rood approach. Her treatment

involved the stimulation of specific oral and facial muscles via vibration or icing techniques. She found this treatment reduced drooling and tongue thrusting as well as improved feeding abilities. This technique is too technical, it requires the background knowledge in anatomy and physiology. With this procedure it is also possible to elicit seizure activity in those children with a seizure disorder. The author found "regularity of treatment produced better results." This is often overlooked by the parents. The parents often discontinue feeding techniques after feeding the child for a few months. The parent does not pick up noticeable differences and therefore the feeding techniques are usually discontinued prematurely. McCracken's treatment sessions continued over a two year period.

Similar to McCracken's therapy technique are those reported by Thomas (1977). She utilized some brushing and icing techniques as well as some of the Bobath techniques. Using this eclectic approach, Thomas breaks down feeding into segments: sucking, swallowing, chewing, spoon feeding and cup drinking. Most authors use this same outline to discuss feeding techniques except for Morris (1982). In her recently published "Pre-Speech Assessment Scale", she describes the feeding areas above and their relationship to each oral-motor function i.e., jaw movements, tongue movements, and lip movements during chewing.

Daduk and Schellberg discuss Rood's techniques in "Tobey's

Story" in a very interesting manner. It is a narrative of Tobey's feelings and thoughts of a handicapped child being fed. This article is often distributed to the parents of a handicapped child.

Therapy techniques for feeding the physically handicapped have changed in many ways in the past 30 years due to our increase in knowledge of the central nervous system. In 1947, Palmer discussed a home program for cerebral palsied individuals called "Hard Food Orientation Program." The program was presented at the Institute for Logopedics. It called for chewing as often as possible on hard foods (raw carrots, raw potatoes, turnips, chewing gum, etc.). This feeding program also suggests that all liquids be taken from a straw.

Bosley (1965) also discusses straw drinking. In the 70's and 80's authors suggested straw drinking only after sucking and swallowing liquids from a cup is mastered. Premature straw drinking may encourage poor oral habits as well as elicit abnormal oral reflexes, i.e. a bite reflex and a tongue thrust (Morris, 1981; Mueller, 1975; Davis, 1978; Golbin, 1977).

Parents must therefore consult a therapist before they implement a feeding program which they have read or heard about. Therapists as well as other feeders for the handicapped must keep up to date with the literature on feeding techniques.

Similarly, there are many suggestions and techniques for

drooling and tongue thrust therapy. These are two areas related to feeding which parents are anxious to improve. The techniques for these two problems range from orthodontic modification, speech therapy, mechanical restraints, myofunctional therapy, operant conditioning, etc. (Thompson, Iwata and Poynter, 1979; McCracken, 1978; Mueller, 1975; Mysak, 1963; Golbin, 1977).

High and Codman (1978) as well as other authors state that feeding may be the first noticeable sign of a disorder. Therefore disorders of poor muscle control can be picked up at an early age (infancy) and early intervention can follow. Mueller (1972) concludes facilitation of normal speech development and feeding is easier and more effective at an age where the brain is at the beginning of its development and myelination is not complete. Similarly, Connor devotes part of his first chapter to the need for intervention.

Bosley (1965), states "as soon as the parent realizes the child has cerebral palsy, the child should begin working on chewing, sucking, and swallowing reflexes. This will aid in the development of speech more than anything else he can do". As Bosley, many authors feel feeding is the forerunner to speech (Morris, 1975, 1981, 1982; Westlake, 1951; Mysak, 1963; Mueller, 1975; Davis, 1978; & Sheppard, 1962).

Sheppard (1964) concluded strong infantile patterns may cause markedly abnormal speech or feeding patterns. On the other hand,

Love, et al (1980) found from their study that a one to one relationship does not necessarily exist between feeding and speech disorders. An individual with feeding disorders may have a speech problem and may not. The authors found one out of a population of sixty cerebral palsied individuals in their study with a feeding disorder and no speech involvement. These results may be biased since the authors did not identify the number of severe cases utilized in the study. If the individual in the study who had a feeding problem in addition to infantile oral reflexes was mildly involved, there would be less chance of a speech disorder. Also age is a factor. If this individual were an older cerebral palsied individual, his speech would be less abnormal than a younger child under the age of 5 years.

Golbin (1977) stresses how we must work with the whole child, "the whole child must be treated at all times; his body and limbs, his social, emotional, and mental development." This is a new concept in the area of speech. Speech therapy was traditionally centered around the facial, laryngeal and diaphragm areas (head, neck and chest). Golbin also stated that the posture of the mouth is usually related to the posture of the whole body. Leslie Davis (1978) said "what occurs at the lips is mediated at the hips."

Connors (1978) points out that in order to maintain normal attachment patterns between the caregiver and child, parental

involvement in therapy with the handicapped infant is an important element for progress to occur. This will foster physical, cognitive, linguistic, social, and emotional development.

Similarly, Mueller (1975) and Bobath (1976) stress the importance of training parents how to handle the child at home. Improvement made during treatment should be carried over, used, and reinforced at home. Mueller feels the mother should not only be taught what to do and how to do it but "why." The parent must understand the child, his difficulties and what he will be able to do if helped in the right way at any stage of treatment and development. Morris, Bobath, Davis, and Mueller rely on normal stages of development to determine what stage of development a child is at and what follows.

Another aspect of a feeding program is the selection of appropriate equipment and materials such as special spoons, cups, plates, etc. High (1978) describes feeding aids for the handicapped, in addition she lists the manufacturer's name, address, and cost.

Proper positioning techniques are also a necessary part of a feeding program. Clear reproductible drawings of positioning suggestions for feeding are found in "Moving Right Along" by Click and Davis,(1982).

Appropriate selection of food according to its texture,

temperature and nutritional properties must not be overlooked. This aspect of feeding may enhance the development of more normal movement patterns within the mouth and increase the general level of health and well-being of the child (Morris, 1977). Food may be selected according to its sensory properties: light, heavy, thick, lumpy, hot, cold, pleasant, noxious, etc. The feeder might test the foods by trying them out and keeping in mind the child's oral disability.

A cerebral palsied individual may not receive proper nutrition due to feeding problems and therefore may contract more illnesses. If an individual is not properly nourished, his whole body may be affected (Connor, 1978) causing feeding skills to be worse. If the child gets ill often he may not think, learn, and fatigue easily in addition to stunted growth (High, 1978).

The handicapped infant may require as much as 10 to 25% more calories per day than a normal baby to maintain weight. This is especially true with athetosis where the baby has excessive flailing body movements. Another type of cerebral palsied infant (spastic quadriplegic) may not require as many calories per day (Connor, 1978).

Denhoff and Denhoff (1978) report sound nutrition during the first 12 to 18 months of life can help salvage brain cells, which in turn can greatly improve the development of atypical children. Unfortunately, these children are usually poorly nourished due to

difficulty with sucking and/or swallowing.

Wilson has developed a list of helpful hints for feeding children with oral-motor dysfunctions. This is a good guide for parents. He discusses the child's and parent's comfort, appropriate praise during mealtime, as well as how to make food more appetizing (see Appendix D).

The last aspect of a feeding program and most often forgotten is the feeder-child communication/interaction during mealtime. Morris (1981) stresses the fact that treatment programs for children with feeding disorders place heavy emphasis on the mechanics, physical handling and oral stimulation techniques. Little attention is placed on the nonverbal child's subtle cues which may indicate whether the approach utilized is appropriate for that child or whether the child likes or dislikes the food he is being fed. Better communication may in itself improve feeding skills by reducing frustration and tension thereby normalizing muscle tone throughout the body.

Feeding the physically handicapped child has become an issue of growing concern to the therapist, teacher, and parent. Therefore, in May of 1983, the American Speech and Hearing Association's executive board formed an Ad Hoc Committee on Dysphagia (swallowing disorders). Their goals are to identify issues regarding swallowing disorders of clients with communication disorders, determining the speech and language

pathologist's role in swallowing disorders and compile a summary report by December, 1984 (Diggs, 1983). We will now find more information pertaining to feeding disorders in the literature in the near future.

Anticipated Outcomes and Evaluation Instruments

Chapter Three

A. The Goal

The goals for this practicum were for parents, teachers and aides (feeders) in the ARC programs in Palm Beach County to properly feed the physically handicapped infants and children with a feeding disorder. The feeders were to be able to look at a child's feeding problems and with some consultation from the physical and/or speech therapist, problem solve to determine the best feeding techniques for an individual child. The feeders were to identify which children have a feeding disorder, what the problem is and how to solve it.

B. Behavior Expected

After the implementation of the practicum, the author expected to see the feeders comfortably and competently feeding the infants and children with a feeding disorder. The feeders would feel confident using the techniques they chose for an individual child. They would continue to carry out the techniques and re-evaluate the child in order to alter techniques as feeding patterns change, every three to six months, with the aid of the physical, occupational and/or speech therapists.

The outcome from the solution strategy includes the following:

The feeder would interact with the child utilizing non-verbal cues, speech, or a language board for the non-verbal child (see Appendix M).

The child would not be frustrated since he will have a means of communicating with the feeder (Morris, 1981). Therefore, the child's muscle tone and body patterns will be more normal.

The feeder would properly position the child for feeding which will improve oral-motor skills for sucking, chewing, biting, and swallowing.

The feeder would learn to offer the child the appropriate foods (texture, temperature, etc.). Similarly the feeder would select those foods which would benefit the child nutritionally i.e., high or low in carbohydrates (Denhoff & Denhoff, 1978). In

addition, the feeder womuld provide the child with the proper equipment i.e., spoons, cups, adapted chairs, and utensils (Morris, 1975).

Feeding would take a shorter time for the feeder and child as well as be neater. There would be less of a mess on the floor, tables and child. The child would be more socially accepted since he would be consuming food in a more normalized manner.

The child's respiration patterns would be better coordinated for speech. The child would learn not to inhale or exhale during swallowing. Breathing and swallowing cannot occur simultaneously after the age of 3 to 4 months (Morris, 1981). As the coordination of breathing with swallowing occurs, there would be less coughing and choking. The child becomes used to larger pieces of food at the back of the mouth (pharyngeal area) and similarly, there is less chance of aspiration of liquids and/or solids. The food is directed down the esophagus rather than the trachea.

The child's oral musculature would be more coordinated for the proper comsumption of solids, semisolids, pureed foods and liquids. The child's vocalizations would increase or become clearer. The beginnings of a communication system for the non-verbal child would develop during mealtime (Morris, 1981).

The child would be healthier since he would be consuming a greater variety of foods and a greater amount of food. This

would improve the child's nutritional intake. The child, therefore, would catch fewer colds and increase school attendance. This would improve his cognitive functioning since the child would be more alert and able to absorb more information

Socially, the child would improve, he would be able to associate with others more often when healthier. His appearance would also improve if the food stayed in his mouth rather than pushed out by his tongue. Drooling is decreased. He would give a neater appearance and smell better (McCracken, 1978). The physically handicapped child would also be able to socially communicate with his peers after the initiation of the feeding program.

Physically, there would be an improvement in motor patterns; better head and trunk control, better hand function if he is learning to self-feed, better eye-hand coordination, etc.

The assessment instruments utilized were observations and a questionnaire (Appendix E). The therapists, teachers, parents, aides, etc., observed improvement in the children's feeding skills. The children should appear to be happier and healthier. This is observed by their facial expressions and attendance records. Confident, competent, and comfortable feeders can also be noted.

A questionnaire (Results of the Feeding Program-Appendix E) was distributed four weeks after the program was implemented to

determine whether or not the feeders were aware of changes in themselves as well as in the children.

C. How the Objective is Measured

The objectives for this practicum were measured in two ways. The first method was through observations during lunch time and snack time at the ARC preschools as well as during individual therapy sessions. The observations after implementation of the feeding program were compared to the videotapes utilized prior to the feeding workshops. This method of observation gave the author a clear way to observe and compare the "before" and "after" the implementation of the feeding program.

Two to three months after the three feeding workshops (January-February, 1984) there was a noticeable difference in the manner in which the children and infants were fed. There were more relaxed feeders and children. Better feeding patterns, including better sitting and/or standing postures, as well as more coordinated movements of the lips, tongue, cheeks, and jaw. Breathing is more coordinated for eating and speaking (Bosley, 1965). There was an improvement in speech skills as a result of the implementation of the feeding program (Bosley, 1965; Morris, 1978, 1981, 1982; Westlake, 1951; Mysak, 1983; Mueller, 1975; Davis, 1978; Sheppard, 1962). These results became more apparent when comparing the present feeding patterns with the April, 1983, videotaped feeding patterns.

The second measure which demonstrated the success of the feeding program was a questionnaire to all feeders: aides,

parents, teachers, etc., (See Appendix E). This questionnaire was handed out to the teachers and aides who attended the workshops in addition to each parent who attended the workshop. The questionnaire was sent out four weeks after the last workshop in order for the feeders to begin to apply their newly learned knowledge, techniques and to become comfortable and familiar with these techniques.

D. Analyzing the Results

The observations in November-February, 1984, were compared to the state of affairs at the ARC schools in April, 1983. Children in each of the four schools were videotaped. Comparisons of the April, 1983, videotapes with the November-February, 1984, observations were analyzed. The author looked at the manner in which the children were fed by the feeder as well the coordination of the oral musculature during the consumption of food. The author determined if there were no improvements, if the child had regressed, if the child and/or feeder have shown slight improvement and lastly, if the child and/or feeder have shown great improvement.

The questionnaire determined whether or not the workshops and feeding program improved the feeders' as well as the child's feeding skills at the ARC programs. The questionnaires revealed 80% of the feeders' skills improved and 54% of the child's feeding skills improved. This improvement, therefore, proved the feeding workshops were a success, especially for the feeders. It will take more time to see improvement in the child's feeding skills (McCracken, 1978).

Solution Strategy

Chapter Four

A. Possible Solutions

The author was unable to locate in the literature any information pertaining to the implementation of a feeding program in a school setting for physically handicapped infants and children.

One possible solution would be to hand out literature on feeding techniques to feeders of the physically handicapped. The literature would have to be easy to read with clear illustrations. The problem with this solution is that not all the parents would read it. Furthermore, in order to get a better understanding of the feeding techniques, one must also observe how the techniques are utilized in aodition to reading the literature.

Another possiblity is to teach the feeding techniques to all the new parents of the infants in the intervention program. This would allow the parents to start a feeding program at an early age. Many of the authors stress early intervention (Mueller, 1975; Connor; 1978, etc.). The problem with this plan is it would take too long to train each parent individually and the feeders of the older children would not receive the benefits from such a feeding program.

Teaching proper feeding techniques may also be accomplished

on an individual basis during therapy. This would be an effective procedure if all the therapists were familiar with the proper feeding techniques. The teachers and aides may not have an opportunity to observe the techniques. Lastly, not each child at the ARC programs receives individual therapy.

Guest speakers who are specialists in the field may also be called upon to discuss feeding techniques for the physically handicapped child. This idea would be too costly and the speakers may not simplify the information so that those without a background in physical therapy, occupational therapy, cerebral palsy, and anatomy and physiology would comprehend the information. The guest speaker is also unfamiliar with the state of affairs at the ARC program in Palm Beach County and therefore, the information may not be directly applicable to the situation at hand.

Another option is to send the supervising teachers for the neurodevelopmental training (NDT) course so that the teachers can learn the information first hand. The course teaches the Bobath techniques for working with cerebral palsied children. This is not a practical solution since it is an eight week, full time course. It is very expensive, approximately $800, not including room and board. It is generally given out of state and it is offered only once or twice per year.

Lastly, the author, who is NDT trained can teach the feeders

of the handicapped children at the Palm Beach County ARC Programs during three workshops as well as during individual therapy sessions over a period of four months.

This last suggestion was the most feasible and the one that was implemented. It was inexpensive, the author is familiar with the feeders' backgrounds as well as the state of affairs at the schools. The three workshops consisted of videotapes and demonstrations. The three sessions were videotaped for those who were absent or new staff members and new parents to view. In addition, handouts were distributed outlining the workshops and giving the feeders guidelines to improve their feeding techniques as well as diagrams and a glossary of terms.

B. The Solution

The last suggestion stated under "Possible Solutions" is the one the author implemented.

Three workshops were offered in the fall (after summer vacations) for parents, teachers, aides, and other feeders of the children at the ARC programs in Palm Beach County. The workshops were one to two weeks apart in order to allow the participants to absorb what was learned and apply the information to the children. The workshops were broken down into three sessions for several reasons. There was too much information to cover in one or two sessions. Secondly, the participants were able to learn, practice and observe the knowledge and information gained during the first and second workshops in order to develop the skills and knowledge necessary for the final workshop. Lastly, the workshops were easily divided into three sessions according to content: Normal Development, Abnormal Development and Intervention.

The first workshop dealt with normal feeding development from birth to 5 years of age. The second workshop aided in identifying the abnormal feeding behaviors of the handicapped child. Lastly, the third workshop discussed the techniques for feeding the physically handicapped child.

The workshops were presented according the outlines in Appendices J, K, and L; except for the following changes. The

normal 3 month old was not used for a demonstration during Workshop I due to the fatigue of the participants. Instead, normal feeding patterns were reviewed at the beginning of Workshop II using the normal infant for demonstration purposes. The observation of a physically handicapped child being fed (Workshops II and III) was presented earlier in the session and the videotapes were shown at the end of the workshops. This change was necessary due to the child's nap schedule. Choking was discussed after one of the participants began to choke on liquids while assuming abnormal feeding postures and drinking during Workshop II. Each workshop lasted 2 1/2 hours with two 15 minute breaks. The participants needed an opportunity to stretch. The participants also used this time to discuss information presented at the workshops. The audience was also given an assignment to be carried out before the following workshop. This helped them to think and apply the information given at the workshop. The assignment for the first workshop was to notice what normal children's tongues, lips, jaws and bodies did when eating and drinking. The particpants were to jot down notes to be discussed at the beginning of Workshop II. After Workshop II was completed, the audience once again was asked to make notes on the movements of the tongue, lips, jaws and bodies when the physically handicapped child is eating and drinking. These assignments aided in the review of the previous workshop.

The workshops were presented in such a manner as to stimulate audience participation. The first workshop required the listeners to eat and drink different foods, provided by the ARC (see Appendix F). In this way the feeders experienced normal feeding patterns by being more aware of how they eat and drink.

The second session gave the audience an opportunity to experience the same foods as in Workshop I while assuming abnormal positions and postures of the body and oral musculature. In this way the participants felt what it was like for a handicapped individual to eat.

The third workshop required the audience to problem solve utilizing the information in the two previous workshops.

Videotapes were viewed in each workshop. The videotape shown during the first workshop demonstrated the normal feeding patterns of a 3 month old, 6 month old, 12 month old, 18 month old, 2 year old, 2 1/2 year old, 4 year old and 5 year old.

The videotape for the second session identified abnormal feeding patterns of children at the ARC preschools. Parents signed permission slips to allow for their child to be videotaped and used for educational workshops (see Appendix A).

The workshops were to solve many problems which feeders encountered such as those stated in Questionnaire I (see Appendix B). In addition, the last half hour of each workshop was as question and answer period as well as the sharing of information

that has worked for other feeders.

A packet of materials was handed out in booklet form at the first workshop. One packet was handed out at the first workshop in order to prevent the loss of materials throughout the course of the three workshops. The materials stapled together in a booklet form keeps all the materials securely together for future reference as well as makes it more difficult to misplace as loose papers would be.

The Feeding Observation form (Appendix F), the Helpful Hints for Feeding Children with Oral-Motor Dysfunction (Appendix D), Anatomy of the Infants and Child's Mouth (Appendix G and H), A Glossary of Terms (Appendix I), an Outline of Workshops I, II, and III (Appendix J, K, L), Mealtime Mat (Appendix M), Positions for Feeding (Appendix N) will be stapled into a manila folder titled "Feeding Workshops." A booklet was handed out at Workshops II and III to those individuals who did not attended Workshop I and/or II.

Each workshop was videotaped and given to the program coordinator. This will allow those who missed the workshops to view it as well as new staff members and new parents to benefit from the feeding workshops.

The author demonstrated feeding techniques with children at the ARC preschools during lunch time and during individual therapy sessions. Individual assistance was also given to those

feeders who were experiencing difficulty or requested individual help or assistance.

This solution appeared to be the most appropriate since the coordinating supervisor made arrangements to increase the attendance of teachers, aides and parents at the workshops. To accomplish this goal, she closed the schools on the days of the workshops making it mandatory for all teachers to attend. Bus service was provided for all those parents, aides and volunteers without transportation. Babysitters were made available at the location of the workshops for the handicapped children and siblings. Grandparents as well as other feeders were welcomed. Letters went home a few weeks before the workshops and again two days before each workshop. With these special provisions, many more feeders attended the workshops.

The coordinator of the program provided the necessary assistance and materials for all three workshops. This included finding an appropriate room which was large and light enough to videotape the sessions, a monitor, a VHS tape, cups, spoons, raisins, juice and applesauce for the Feeding Observations (Appendix F) Workshops I and II, pencils, the notice to inform feeders of the dates of the workshops and making booklets and copies of feeding materials (Appendices D, F, G, H, I, J, K, L, M, N, O).

During Workshops II and III, arrangements were made by the

author to have one handicapped child with a feeding disorder from one of the four ARC preschools for demonstration purposes.

This solution surpasses all other solutions stated since it made provisions for more feeders to attend the workshops. The feeders are given written materials to refer to as well as individuals sessions to help the feeder improve their feeding techniques. The feeders' participation in all three workshops was helpful in making the feeders remember what was demonstrated at the workshops and reduce daydreaming or fatique when listening to straight lecture.

The videotapes of each session will aid in teaching the feeding techniques to all those unable to attend the workshops. Since each workshop is based upon the one the preceded it, an individual who missed a workshop was able to view it before they attended the next one. The videotapes of the three feeding workshops have also been used for new parents and staff members, for parent coffees at the preschool once per month and as a refresher course for those that attended the workshops, as well as for other professionals and fellow workers.

It was the author's goal to give the feeders sufficient background information as well as feeding techniques to become a more comfortable and knowledgeable feeder for the physically handicapped child and infant with a feeding disorder. This in turn will improve the child's oral-motor skills for the

consumption of food and the production of speech as well as improve health, social, emotional, and cognitive development.

To the author's knowledge a program such as this has not been tried before. At United Cerebral Palsy (UCP) in New York City there were feeding workshops at staff inservices and educational sessions for parents in the infant program. Teachers learned the feeding techniques by observing the highly qualified therapists feeding children during lunch time. The situation at UCP was very different than the one at the ARC preschools in Palm Beach County since they had many well trained teachers and therapists in feeding skills for the physically handicapped. UCP's educational sessions and workshops were mainly geared toward new parents and new staff members in their programs.

C. Calendar for Implementation of Selected Solution

1. The signing of permission slips for videotaping children (February, 1983).
2. Videotaping normal feeding and abnormal feeding development (March-May, 1983).
3. Questionnaire to feeders (May, 1983).
4. Discussing plans and materials needed for workshops with supervising coordinator (July and August, 1983).
5. Editing videotapes (August and September, 1983).
6. The writing and approval of the proposal (May-August, 1983).
7. Making Booklets for workshops (September, 1983).
8. Preparing for feeding workshops, presentations (August-September, 1983).
9. First workshop (mid-September, 1983).
10. Second Workshop (late September, 1983).
11. Third workshop (beginning of October, 1983).
12. Individual therapy sessions and individual feeding sessions at lunch time at the ARC preschool (September-December, 1983).
13. Distribute questionnaire, "Results of Feeding Program" (November, 1983).
14. Observations of feeding program (December, 1983).
15. Analysis of results (December, 1983-February, 1984).
16. Completion of report (March, 1984).

Results, Conclusions and Recommendations

Chapter Five

A. Results and Discussion

The feeding workshops and individual demonstrations to feeders were a success. This is apparent when viewing the April, 1983, videotapes of the children eating and comparing them to the current state of affairs at the four ARC preschools and the infant intervention program. The feeders are now using proper techniques when feeding the children. The children are now eating with improved oral motor coordination. The children are bringing in a variety of food textures (chunks of cheese, bread sticks, large pieces of cooked vegetables, etc.) for lunch. The children and the feeders are less fearful when consuming or introducing solids. These changes became more obvious when the questionnaires (Appendix E) were analyzed.

The author's observations of feeders and children eating demonstrated improvement in the feeders' and eaters' skills. The feeders are more comfortable and relaxed when feeding the children. This can be attributed to the fact that they are more knowledgeable about the identification of feeding problems and techniques to improve these problems. These areas were stressed at the last two workshops. The feeders also learned about the importance of properly positioning the child and themselves during feeding time. The feeders also learned to be more

flexible. They are experimenting with different feeding techniques and different feeding seats. The author found some feeders devising feeding seats and adapting old feeding seats.

The feeders are no longer bird feeding the children. They have the children positioned with proper head and trunk alignment. In fact, if one feeder sees another feeder or a new feeder (who did not attend the workshops) utilizing inappropriate techniques, they will advise the author to demonstrate proper techniques or the experienced feeder will demonstrate or suggest proper methods for feeding the child. This has occurred several times since there have been four new staff members and many new children (10) enrolled into the program since the presentation of the three workshops.

Many of the teachers and parents (22) requested the demonstration of specific feeding techniques for the children they feed. The author attempted to guide the feeders in problem solving techniques rather than demonstrate a technique. This method helped the feeders feel more confident about their knowledge in feeding the physically handicapped and helped them to develop ways to feed other children without requesting demonstrations. The feeders also realized each child's needs are different and therefore different techniques or variations of a technique should be used for each child.

Not only is there more communication about feeding among

feeders, but the feeders are communicating more with the eater. The feeder is discussing the foods with the child (names, colors, temperature, etc.). The feeder together with the child determine whether or not the child is hungry, finished, likes or dislikes a particular food as well as incorporates the child's cognitive goals into the speech sessions, i.e., body parts, colors, numbers, etc. Some of the feeders have reported their amazement when the children labeled "low functioning" indicated food preferences, when they are full or wished stop eating. Many different communication systems and combination of systems are being utilized; gestures, sign language, sounds, words, pictures (photos and drawings), symbols (blyss), etc.

In a short period of time (five months), the children are exhibiting improved oral motor functioning. Their tongues are not protruding as much during lunch time or throughout the day. They are beginning to breathe through their nose as opposed to their mouth. There is less drooling, more chewing, fewer children are drinking from a bottle, few children elicit primitive oral reflexes (bite, suckle-swallow, rooting, etc.) and abnormal patterns (jaw thrust, tongue thrust, etc.). The children's facial and oral areas can be touched without exhibiting hypersensitivity reactions. They are consuming more of a variety of foods and a greater quantity.

Lunch time is still messy for many of the children. This may

be attributed to the introduction of new foods and textures. Many of the children have never chewed before or never experienced solid foods until now. As they get used to the new foods and textures and the feeders learn which foods the children like and dislike, we will begin to see less food on their bibs and the floor.

The children appear to be happier during lunch time. There is less crying and less choking due to proper positioning and the children's ability to consume solid foods which are presented at their molars. The children are more confident eaters and therefore do not anticipate difficulties and are not as sensitive in the facial and oral areas. In most cases the children are not eating bland unappetizing baby food. They now consume table foods, the foods that their siblings eat as well as foods seen on television. The children are given a choice of foods for consumption and a greater variety of foods. The children have become better communicators. This helps to reduce the feeders' and eaters' frustrations. The feeder can ask the child which food he would like to eat, if he is hungry or finished, etc. The child communicates verbally, with a language board, with sign language, or a combination of these communication methods. Many of the children's communication skills have improved after the implementation of the feeding workshops. These communication skills have carried over to other times of the day.

It is difficult to determine the nutritional improvements in such a short time. The attendance records at school were similar to those of last year. Although the teachers felt that the children did not get as many serious illnesses this year. This may or may not be due to a change in the children's diet. Three parents have reported that their children are less constipated in the past three months. This may be attributed to an increase in fiber in the child's diet.

The children are socializing while eating. They are communicating with their feeder and family members. Five parents reported that they started taking their handicapped child out to eat to a restaurant with the whole family.

The information gathered from the questionnaire filled out by the feeders (Appendix E) illustrated similar findings to the author's observations. Out of 30 questionnaires, 54% (16) of the questionnaires showed improvements in all the child's skills listed on Appendix E. Eighty percent (24) of the feeders felt they improved in all areas listed on the questionnaire. One hundred percent of all the children and feeders showed some improvement.

All 30 feeders were able to identify the existance of a feeding problem. Twenty percent (6) of the feeders had one or more difficulties, 14% (4) had difficulty in one area and 6% (2) had difficulty in more than one area. Four feeders (13%) did not

feel comfortable feeding children. Two of the 30 feeders experienced difficulty determining which techniques to use to normalize a child's feeding skills. Similarly, 2% did not find themselves communicating more with the child.

The child's eating skills did not show as much improvement as the feeder's skills. This may be related to the fact that it takes more time for the improvement to be noticeable (McCracken, 1978). According to the questionnaire, 54% (16) of the children's feeding skills showed improvement in all areas listed on the questionnaire. Forty six percent (16) of the children experienced difficulty in one or more areas according to the feeders, 20% (6) of the eaters had only one problem and 26% (8) of the eaters had more than one problem. See Figure 1 for feeding questionnaire (Appendix E) results.

In summary, the feeding workshops created a change for both the feeders' and the eaters' skills. There was more improvement in the feeders' skills (80% showed improvement in all areas listed in the questionnaire) than the eaters skills (54% of the 30 eaters showed improvement in all areas listed on the questionnaire. This may be attributed to the fact that it takes six months or more before noticeable differences are apparent (McCracken, 1978). One hundred percent of the feeders and eaters on the questionnaire indicated improvement in at least one area.

Each of the 30 questionnaires stated a need for future workshops on feeding with more demonstrations.

Feeder's and Eater's Difficulties After the Participation in Three Feeding Workshops

	No Difficulties in any areas	Difficulties Encountered	Difficulty in only one area	Difficulty in more than one area
Feeder's Skills	80%* (24)*	20% (6)	14% (4)	6% (2)
Child's or Eater's Skills	54% (16)	46% (14)	20% (6)	26% (8)

Figure 1. Above are the findings of 30 feeders, 4 weeks after attending 3 Feeding Workshops on feeding aspects for the physically handicapped infant and child at the ARC preschools in Palm Beach County.

*Note: The number under the percentage reflects the number of individual questionnaires and the percentage reflects the percentage of questionnaires.

B. Unanticipated Outcomes

More participants (teachers, parents and aides) attended the feeding workshops than any other inservice or workshop offered prior to the feeding workshops. Approximately 40-50 participants attended each workshop. This may be attributed to the special provisions discussed in Chapter Four.

Feeding time at the ARC preschool is more organized. A teacher is assigned to one or two children during lunch time. In three of the four schools, the feeders rotate each week so that each feeder gets an opportunity to feed each child.

The feeders and eaters are carrying over skills learned during mealtime to other activities and times during the day. For example, the feeders are utilizing better positioning techniques when teaching the children academic subjects, i.e., colors, numbers, etc. Similarly, the childrens' oral musculature appears to be more coordinated for speech. The children are making more variety of sounds and new sound combinations (Bosley, 1965).

The videotapes of the feeding workshops were utilized to train all new teachers and parents. ARC is planning to set up a videotape library. The feeding videotapes will be part of this collection. The videotapes will be used for staff inservices, parent coffees, and refresher courses.

One infant trainer explained how she utilized a method of teaching presented at the first two workshops. She had the

parents of her assigned infants consciously eat, drink, and chew foods assuming normal and abnormal postures and positions in order to learn about normal and abnormal feeding development. This infant trainer, as well as other participants, commented on this segment of the workshops. They felt that the participants learned the most from audience participation portions of the workshops and they wanted to make use of these suggestions and methods when teaching others how to feed the physically handicapped population.

Eating solid foods allows the children to consume a more fibrous diet therefore possibly resulting in less constipation. Some parents have reported this development after a change in their child's diet, as well as firmer and more normal stools.

The feeders have begun to realize the importance of mealtime at the schools. They have noted the social ramifications. During party time almost all the children can now eat the party foods (cakes, drinks, chips, etc.) Nutritional gains (less constipation, speech gain, (teachers hear more variety and larger vocalizations) as well as the learning of new concepts (temperatures, colors, numbers, etc.) and motor gains (better positioning allowing for better movements not only during feeding but during other school activities) have been noted by the teachers.

The wording of the comments, suggestions, and requests on

page two of the Feeding Questionnaire (Appendix E) indicates the feeders' general knowledge in the area of feeding the physically handicapped youngster. The feeders wrote such terms as jaw control, tongue thrust, normalize hypersensitivity, positioning for feeding, etc.

The feeding workshops and feeding program was successful. The feeders in the ARC program in Palm Beach County can properly feed physically handicapped infants and children with feeding disorders. The feeders have learned to identify feeding problems and problem solve in order to determine the best techniques for an individual child. These results were arrived at in two ways - through observations and via a questionnaire.

C. Recommendations

Page two of the feeding questionnaires (Appendix E) indicated a need for more workshops on feeding techniques for the physically handicapped child.

The feeding workshops in the future will take place in each of the four ARC preschools. They will consist of demonstrations with those children the feeders are having most difficulty with. The workshops will be presented in such a manner that the feeders will be required to arrive at solutions to the problems they have encountered rather than lecture and demonstration sessions.

The workshops will be given at each of the four ARC preschools since the needs and problems vary from school to school.

Other therapists (speech, physical and occupational therapists) in Palm Beach County heard about the feeding workshops and have asked specific questions about children they work with as well as materials the therapist can give to parents and co-workers. The author sees a need to have an inservice on feeding techniques for the physically handicapped infant and child for physical, speech, and occupational therapists in Palm Beach County.

The author has been asked to give similar workshops for a group of physical and occupational therapists in the Broward County School System as well as a pediatric therapist's group in

Broward County.

In order to disseminate the practicum results, the author plans to write several articles regarding identification, intervention, and feeding development of the physically handicapped child for an educational journal.

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Appendix A

Parental Permission Slip

I give permission for my child _____
(child's name)
to be photographed and/or video taped, to be used at educational workshops for parents and teachers.

Parent's signature_____

Date_____

RENAI JONAS, M.S., C.C.C.
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Appendix B

Questionnaire

Three workshops will be offered on feeding techniques for the physically handicapped child. Please be kind enough to fill in the questionaire in order to make the workshops most beneficial to you. Indicate your interest in the questions and statements below by checking (√) the appropriate space.

Workshop I Normal Feeding Development

*Int.	Not Int.		
____	____	1.	Should I offer my child a bottle or is it more beneficial to breast feed my child?
____	____	2.	Is it wise to give a child a pacifier or is it better for the child to suck on his thumb?
____	____	3.	When is the best time to discontinue using the bottle and/or pacifier?
____	____	4.	When should the cup be introduced?
____	____	5.	When should I introduce solid foods for chewing?
____	____	6.	Which is more nutritious: store bought baby food or home made baby food?
____	____	7.	What do I do when a child starts to choke?
____	____	8.	Should I allow a young child to put his toys and other objects in his mouth?

Workshop II Feeding Development of the Physically Handicapped Child

____	____	1.	Why does my child grind his teeth?
____	____	2.	Why is my child's tongue out of his mouth when he drinks from a cup or swallows?
____	____	3.	Why does he use his tongue to mash his food or swallow it whole? He has teeth why doesn't he chew?
____	____	4.	How do I know whether or not a nonverbal child likes her food? She often sticks out her tongue and becomes very stiff as if she is dissatisfied with the foods I offer?
____	____	5.	Why does my child turn his head when I give him foods with a spoon?
____	____	6.	Why does he gag when I give him new foods or a coarser texture?
____	____	7.	Should I allow a physically handicapped child eat independently even if he gets very messy and begins to tighten his whole body? He enjoys feeding himself and dislikes it when I feed him?
____	____	8.	My child does not talk to me while he eats. Sometimes it is difficult to determine if he wants more or if he is full.
____	____	9.	Since my child is physicly handicapped should he be on a special diet?
____	____	10.	Why is it important to introduce different textures into a child's diet?

* Int. = interested
Not Int. = not interested

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Workshop III Techniques For Feeding The Physically Handicapped Child

*Int.	Not Int.	
----	----	1. My child eats the quickest and gets the most norishment when fed in my lap with his head back. Should I continue to feed him this way since nutrition and weight gain are a major concern at present?
----	----	2. What is the best position for my child to eat: on my lap in a reclined infant seat or in a high chair?
----	----	3. I cannot feed my child solids since he gags and becomes very stiff while being fed. How can I reduce this sensitivty to solids?
----	----	4. When I feed this child with a spoon she bites down on the spoon and can't let go. She begins to cry as if she is hurting herself. How can I prevent this from occurring?
----	----	5. How can I protect myself from getting badly bitten when I feed a physically handicapped child?
----	----	6. Which foods and textures should I avoid when feeding a physically handicapped child?
----	----	7. How can I get my child to stop sliding down in his chair during feeding time?
----	----	8. I have a difficult time getting my child to swallow medication, do you have any suggestions?
----	----	9. If a child enjoys drinking from a straw and his tongue is protuded under the straw is it better to discontinue straw drinking?
----	----	10. If a child only wishes to eat solid foods and refuses liquids, how can I encourage him to drink liquids?
----	----	11. How can I encourage a child to eat solids when he refuses them and will only drink liquids from a bottle?
----	----	12. Should I wait for my child to be taken off tube feedings before I introduce oral foods?
----	----	13. How can I get my child to stop sucking his thumb?
----	----	14. How can I get a child to keep his tongue in while swallowing?
----	----	15. How can I teach a child to chew?
----	----	16. How can you stop a child from grinding his teeth?
----	----	17. Should I continue to give my child the foods that are easiest for him to eat and not introduce the more difficult ones such as meat?

Comments, Questions or Suggestions:_____

_____

_____

_____

_____

_____

* Int. = interested
Not Int. = not interested

Appendix C

SURVEY FOR SUPERVISING TEACHERS

1. How many children are in your school?

2. How many have a feeding problem?

3. What is their problem?

4. How many children must be fed with assistance?

5. How many are self-feeders?

6. How many self-feeders have other feeding problems?

7. Do the children with a feeding problem also possess a speech problem? (Difficulty with sounds, unintelligible, difficulty putting words together).

8. Do parents ask for help or suggestions relating to their child's feeding problem?

9. Do you feel a feeding program for teachers and parents will be beneficial to the children in your school?

Helpful Hints for Feeding Children with Oral-Motor Dysfunction

Janet M. Wilson, L.P.T., M.A.C.T.

Many children who are severely or profoundly multiply handicapped have oral-motor dysfunction which can result in problems in feeding, breathing or speaking. They may be unable to suck, chew or swallow. They often cannot coordinate breathing with swallowing, and gag, sputter, choke or cough when fed. They often keep their mouths open and drool. Feeding the child with oral-motor dysfunction is, at best, a frustrating experience and often unpleasant, time-consuming and stressful, both for the child and the caregiver.

If you are involved in the daily care of the severely or profoundly handicapped child, you <u>will</u> be involved in feeding these children. The more normal experience you can provide during feeding provides the child with (1) normal movements of lips, mouth, tongue and jaw; (2) normal preparation for speech, and (3) normal preparation for all the wonderful social experiences based on eating.

There are many things that will help you to be better prepared to feed a child with oral-motor dysfunction.

1. Make certain the child is in an appropriate state for eating. The child should be calm, quiet but alert. The most important rule for planning a feeding program is: <u>Do</u> anything which keeps the child relaxed and facilitates lips together, head coming forward and hands moving toward his mouth. <u>Do not</u> do anything which produces crying, struggling, increased muscle tone, fear or avoidance patterns of head turning, lip retraction, grimicing or tongue thrusting.

2. Position yourself and the child in a comfortable, relaxed place. Make certain the food is readily accessible. There are many variations of the "sitting in a chair" position. Try them. If necessary, consult with a therapist or person who knows the child's problem to see what will work best. Primarily, you want a position that allows the child to eat happily and easily, but be good to yourself--you should be comfortable, too!

3. Provide a method to keep hot food hot and cold food cold. Feeding a child with oral-motor dysfunction takes time, but the handicapped child needs the experience of foods of different temperatures rather than everything at room temperature.

4. Prepare the child for eating. Tell him, "It's time to eat!" Let him smell and see the food. The odor of food is a big part of eating, and many handicapped children are not given the opportunity to smell foods as they are prepared or when they are eating. Preparing the child for the eating experience will help decrease his sensitivity to sights and smells and better enable him to cope with the new stimuli presented at mealtime.

5. Develop a rhythm for feeding. The rhythm must be one that is comfortable for both you and the child. Some children must be fed slowly, as they chew and swallow very poorly. Other children require a fairly larger volume of food in their mouths to stimulate chewing and swallowing and must be fed rapidly. If food is given too fast, however, the child may intentionally push it out of his mouth; if food is given too slowly, the child may lose interest in eating once his initial hunger is satiated.

6. Know the child's oral-motor capabilities. Some children have a tongue thrust which forces the food out of the mouth; other children have a bite reflex that causes them to bite down on the spoon or nipple each time it is placed in the mouth. It is important that you know if these activities are voluntary or reflex before you blame the child for spitting out food or biting his spoon. The child may not like what is happening any better than you do. If this is so, say to him, "I know you don't mean to bite the spoon," or "It's not fun to have food come back out of your mouth." This will let the child know you understand his feeding problem.

7. Praise any efforts at normal eating. Say to the child, "I see you chewing." "I see good swallowing." "I see your lips together, and your mouth is closed." This will help the child understand what you expect from him. Children with long-standing feeding problems may not know what normal eating feels and looks like. Keep your voice quiet when you praise him. If you get too excited, the child will smile, open his mouth and you will have a lap full of food!

8. Eating is a good time for verbal interactions. As you feed a child, he will often begin to vocalize. Encourage these vocalizations in meaningful ways. Say to the child, "I hear you asking for more milk." "Are you asking me for more food?" "Oh! You like this." This will help him understand that talking has a purpose. Give him chances to talk; say, "Do you want milk or potatoes?" Wait until he verbalizes his choice even if he can't use words. Many children who can't talk don't get an opportunity to make choices about food, and yet this is an important part of eating and, eventually, making choices in other areas of his life.

9. Watch your facial expressions. Often it is not a pleasant experience to feed a child who chews with his mouth open, spits food back out of his mouth and drools. If you show this dislike on your face, the child may feel this means you don't like him. Watch your expressions as you give him foods. If you don't like strained peas (and who does!) and show this on your face, the child will learn not to like them. Severely handicapped children respond to facial expressions even when they do not understand words.

10. Do not put too much food on the spoon. This is particularly important if the child has a tendency to push food out of his mouth with his tongue. The more food you put in, the greater the potential for it coming back out!

11. Give the child a consistency of food he can manage. Strained and pureed foods are often easier for the child to manage than either solids or liquids. Yogurt, puddings (particularly rice and tapioca), grits, oatmeals or bran soaked in milk and poached or scrambled eggs give the child some consistency even when he cannot yet handle solid foods.

12. Do not mix foods together unless it is necessary. Mixing foods deprives the child of sensory cues of color, texture and taste necessary for normal feeding.

13. Let the child show preference for food. Remember the handicapped child needs to develop food preferences and you should allow him to express likes and dislikes. It is usually possible to substitute one food for another to make certain he gets the proper nutrition.

14. Attempt semi-solids and solids as soon as possible. The longer the child goes without learning to manage solid foods, the more resistant he will be to try them. Normal children are able to eat many solids by one year of age; the handicapped child should have this opportunity, too.

15. Do not panic if the child chokes and sputters when attempting new foods. Let him have the opportunity to handle choking by himself. If he shows distress by turning red, not breathing, etc., sit him upright and tip him forward or place him on his side. It is often not necessary to slap his back. Most children pick up a fear of choking from those around him. If you stay calm, you can better assist the child in learning to eat new foods of different textures.

16. Do not tease a hungry child. Often if you want to work on changing a child's eating pattern, you will have to give him a few bites first to help take the edge off his appetite, then you can slow down his feeding, asking him to close his mouth, chew or whatever you want. Do not withhold food because the child is drooling or spitting. If this is due to poor behavior, work on changing the behavior other than at mealtimes. Sometimes the only control a severely handicapped child has in his environment is to refuse food. He can make you pay attention to him longer by taking a long time eating. If he is really messy, you will have to change his clothes after the meal, again prolonging the attention he gets. Make certain the child is getting adequate attention other than at mealtimes. It may be the only time he can make you angry and

frustrated. If you make the feeding experience a pleasant time, giving the child lots of attention and praise, he will learn he can use his control of eating to make you happy and pleased.

17. Sweets cause an increase in drooling. Do not reward a drooling child with sweets, as this will only make matters worse. Many handicapped children have dental caries, and sweets are often unpleasant for them, which is another reason not to give them sweets.

18. Brush teeth often. Children with oral-motor problems often do not move their tongues well in their mouths. They cannot use their tongue to remove food from the hard palate or from between the cheeks and gums. They do not get the natural tooth brushing effects from a mobile tongue. Often these children have their mouths open and do not swallow their saliva, producing a warm, wet environment for bacteria to grow. This produces rapid dental caries, as well as bad breath. The child's teeth should be brushed after each meal. This provides good stimulation for the gums, teeth, palate and tongue, as well as removing food remaining in the mouth. It is not necessary to use toothpaste. The stimulation from the brush is far more important.

19. Many handicapped children are small and poorly nourished. This is due to several factors. First, they do not get enough food because it is difficult for them to eat. Second, they do not eat because they do not move much and do not develop much appetite. Third, foods they can eat are often not very appetizing, are often the same color, texture, taste and temperature. Fourth, they do not get foods that provide them with balanced nutrition. One way to enrich foods is to add eggs. This is a high source of protein. You can add two eggs to any recipe that calls for one. You can add raw egg to milk, juice or yogurt. You can cook egg in cereal or puddings. Consult a nurse or nutritionist for additional suggestions for enriching the diet.

20. Constipation is often a problem. This is partly because the diet is low in roughage and liquids, and partly because the children are inactive. You can add bran by soaking 100 percent bran buds in milk and using it in combination with molasses in muffins or bread.

    Give the child vegetables with skins, such as cooked corn, lima beans or peas. Certainly raw vegetables are ideal if the child can manage the texture.

    Promote liquids, water, prune juice or orange juice (<u>not</u> apple juice--this is constipating). Because he cannot ask for a drink, the handicapped child often gets liquids only with his meals.

    Many of these children have abnormal posture and movements; e.g., tongue thrusting, jaw opening or head tilted back. There are specific therapeutic techniques designed to assist with these problems and normalize the feeding process. You should consult a physical therapist, occupational therapist or speech therapist to assist you with these specific techniques for an individual child. Remember, before you attempt to alter a child's feeding pattern, make certain you have a way that will make feedings easier and more pleasant for both parent and child. No

parent wants a feeding program that is time-consuming and frustrating for her and her child. Eating time should be fun and is the basis for many social experiences as the child grows--picnics, family gatherings at holidays, restaurants, etc. Eating, for most children and adults, goes on three times a day. It is a big part of life. Do not let the handicapped child miss out on these wonderful experiences.

APPENDIX E

Questionnaire

The state of affairs after the initiation of the feeding program. Check ( ) the appropriate space.

Feeder's Skills

1. Can you determine if a feeding problem exists?
   ___ yes ___ no
2. Do you feel more comfortable feeding the child?
   ___ yes ___ no
3. Do you know which techniques to use to normalize the child's feeding skills: proper postioning, jaw control special equipment, food selection, etc.
   ___ yes ___ no
4. Do you find yourself communicating more with the child you feed?
   ___ yes ___ no
5. Is it easier for you to feed the child?
   ___ yes ___ no

Child's Skills

1. Do you see an improvement in feeding skills: sucking, swallowing, chewing, and biting?
   ___ yes ___ no
2. Does the child appear neater?
   ___ yes ___ no
3. Is the child a better communicator especially during mealtime?
   ___ yes ___ no
4. Is the child healthier?
   ___ yes ___ no
5. Is the child happier?
   ___ yes ___ no
6. Is the child consuming more of a variety of foods (testure, temperature and quantity?
   ___ yes ___ no

APPENDIX E

Questionnaire

As a feeder which feeding techniques do you wish to further improve upon?

Which feeding skills would you like the child to further improve upon?

List suggestions for future workshops and/or individual feeding sessions for teachers, aids, parents, etc.

APPENDIX F

FEEDING OBSERVATIONS

1. Drinking liquids from a cup.
   Describe the movements and the functions of the following when drinking:
   a) Lips -
   b) Tongue -
   c) Cheeks -
   d) Respiration (breathing)
   e) Position of the head and trunk

   Now extend the head back while drinking and determine if the functions and/or movements of the above remain the same or change.
   Now flex the head foward while drinking and determine if the functions and/or movements of the above remain the same or change.

2. Eating pureed food off a spoon.
   Describe the movements and/or functions of the following when eating pureed foods.
   a) Lips -
   b) Tongue -
   c) Cheeks -
   d) Respiration -
   e) Position of the head and trunk.

APPENDIX F

3. Eating solid finger food (raisens).
Describe the movements and/or functions of the following while eating solids.

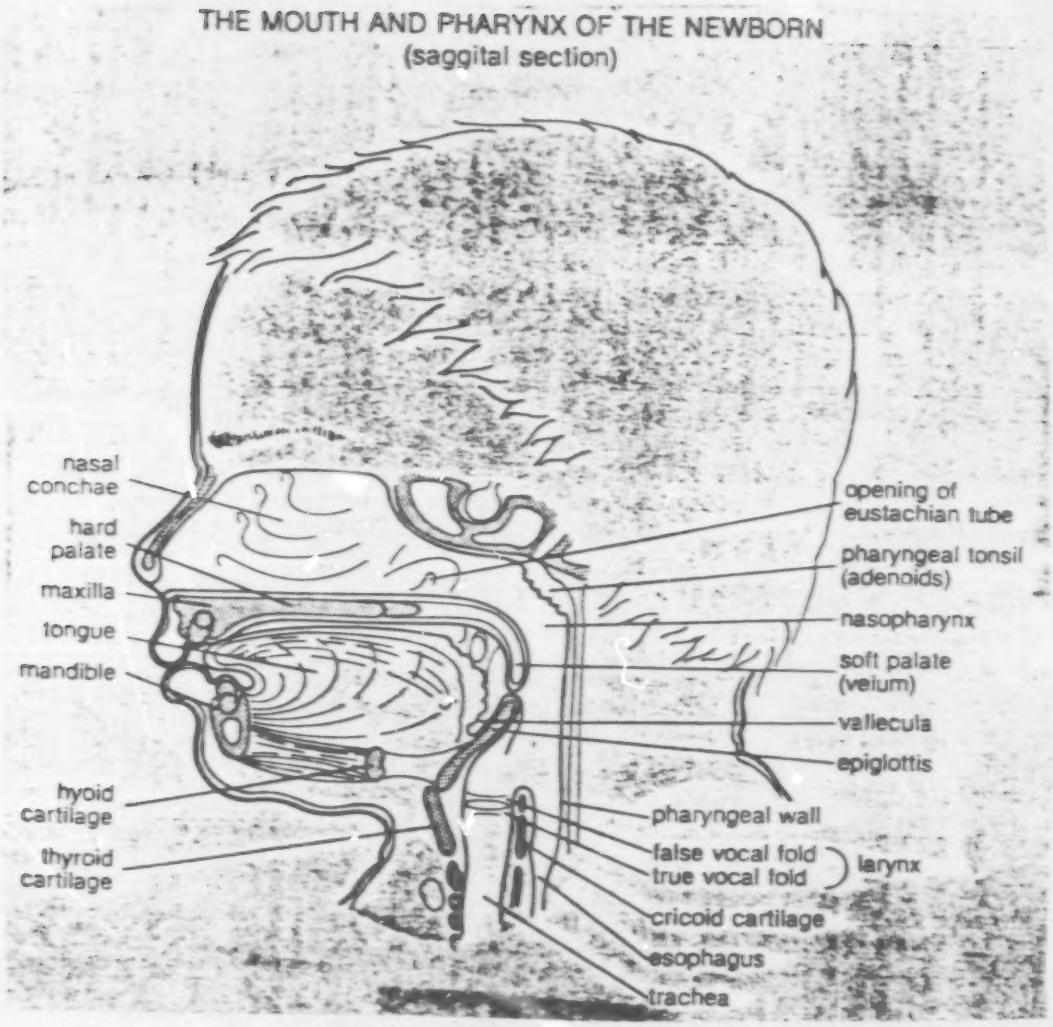
a) Lips -
b) Tongue -
c) Cheeks -
d) Respiration -
e) Chewing pattern -

Now place a raisen at the molars. Determine if the functions and/or movements of the above change or remain the same.

Now place the raisen under the upper lip. How does the positioning of the raisen change the movements and/or functions of the oral musculature (list above).

Now place one raisen on each side of your mouth, at the molars. What changes or differences do you see or feel.

Appendix G



Morris,S.E. The normal acquisition of oral feeding skills: Implications for assessment and treatment.

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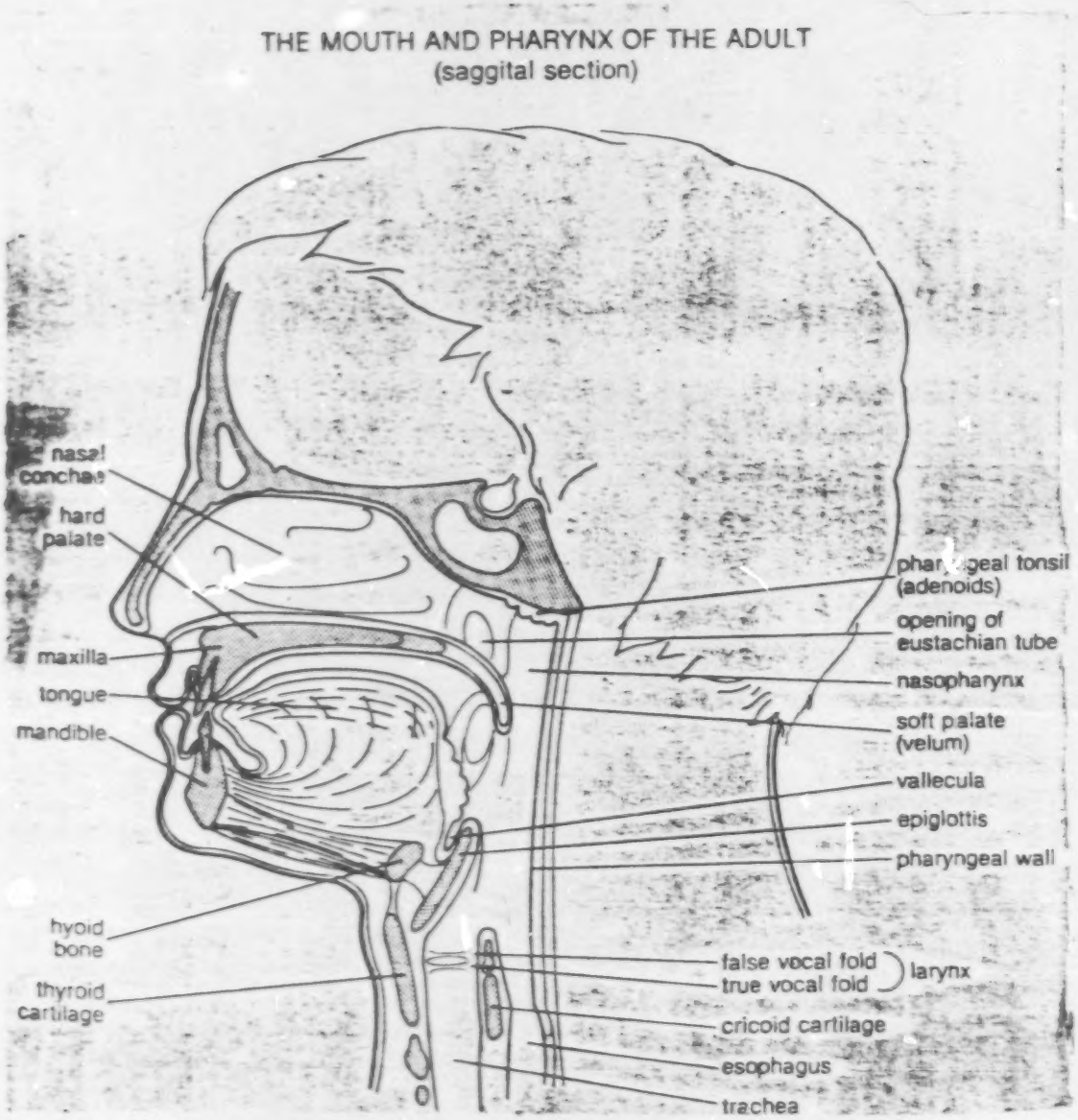
Appendix H



Morris,S.E. The normal acquisition of oral feeding skills: Implications for assessment and treatment.

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Appendix I

Definitions of Terms Commonly Used for the Handicapped

ARTICULATORS - Refers to the tongue, teeth, roof of mouth (hard and soft palate) and lips.

ARTICULATION DISORDER - Difficulty producing sounds.

BABBLING - What is heard when a child combines a vowel sound and a consonant sound and repeats it over and over (gagaga, papapa). It is believed that babies babble because they enjoy the feeling. This pleasureable feeling encourages a child to repeat sounds over and over.

CEREBRAL PALSY - The inability to control body movements caused by nonprogressive brain damage resulting from a prenatal defect or brain injury.

Classifications of Cerebral Palsy

Athetosis - characterized by involuntary movements when the individual makes voluntary movements. Prior to making the volitional movement the true athetoid experiences relatively normal muscle tone.

Spasticity - a state of increased tension in the muscles.

Ataxia - lack of sense of balance, lack of sense of position in space and uncoordinated movements. Characterized by "drunken" walking pattern.

Tremor - shakiness of involved limb. Tremor might be noticed only when the child attempts to use the limb.

Mixed - child may have a combination of classifications such as both spasticity and athetosis or spasticity and tremor, etc.

Topographical Classification

Monoplegia - one limb involved.

Hemiplegia - upper and lower limb involvement on the same side of the body.

Paraplegia - lower limbs involved.

Diplegia major involvelement in the lower limbs and minor involvement of the upper limbs.

Triplegia - three limbs involved usually two lower and one upper.

Quadriplegia - major involvement of all four limbs.

Double Hemiplegia - upper limbs more involved than lower.

COMMUNICATION - The process of sending to one another thoughts, feelings, or opinions by means of signs, signals and symbols expressed verbally or nonverbally, consciously or unconsciously.

CONSONANT SOUNDS - Sounds produced by stopping or alternating the airstream with articulators.

COOING - The production of sounds produced by an infant during the first three months of life. Usually consist of vowel sounds as well as non-speech sounds ("rasberries", blowing sounds, etc.).

DELAYED SPEECH - Failure of speech to develop at the expected age due to: slow maturation, hearing impairment, brain injury, mental retardation, or emotional disturbance.

EXPRESSIVE LANGUAGE - Means by which we make our thoughts and feelings known to others through speech, writing, painting, etc.

JARGON - Stringing together assorted meaningless syllable sounds. It sounds as if child speaking another language. A great variety of pitches are utilized.

MYRINGOTOMY - An incision made in the eardrum to allow drainage of the middle ear in cases of otitis media. Sometimes tubes are inserted into the eardrum for drainage to occur over a 6 month period of time or more.

NORMAL NONFLUENCY - The repetition of sounds, syllables, words, or phrases without great effort.

ORAL CAVITY - The area inside the mouth.

ORAL REFLEXES -

Rooting Reflex - (0-3 months). When the lips are stimulated the head turns to the stimulated side.

Suckle-Swallow Reflex - (0-4 months) A highly rhythmical pattern. It allows the infant to close his lips automatically around the nipple, suck repeatedly and then swallow.

Bite Reflex - (1-8 months) Repeated up and down biting action during play or feeding time. This biting pattern also occurrs when the lips or gums of an infant are touched.

Gag Reflex - Present throughout life. An infant tends to have a very strong reaction to stimulation of the lips or oral cavity and gags easily. The more the baby continues to explore his environment, the more he learns to tolerate oral stimulation.

OTITIS MEDIA - An infection or the build up of fluid in the middle ear.

RECEPTIVE LANGUAGE - The ability to understand what we see and hear - spoken, written, gesture, facial, etc.

STUTTERING - A disturbance of speech rhythm and fluency of speech whereby an individual forces out sounds and words or phrases. The individual is aware of his speech problem and may avoid certain sounds, words, people or situations which are threatening to him.

VOWELS - A single open sound uttered without any constriction of the articulators, i.e., /a/ as in hot.

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APPENDIX J

Workshop I

Normal Feeding Development

The following will be discussed during Workshop I:

1. Description of the therapist's background.

2. Description of the participant's background.

3. The importance of learning normal feeding development.

4. Discussion and diagrams on anatomy and physiology of the oral mechanism.

5. The participants at the workshop will learn normal feeding patterns while eating and drinking foods during the workshop. The food will be provided by The Association for Retarded Citizens.

6. Videotapes of normal development form three months to five years will be viewed and discussed.

7. The observation of a normal three month old's feeding skills will be seen.

8. Questions and answers.

APPENDIX K

Workshop II

Feeding Development of the Physically Handicapped Child

The following will be presented at Workshop II:

1. Review of normal sucking swallowing, biting, and chewing patterns.

2. The participants at the workshop will learn abnormal feeding development by assuming abnormal postures while eating and drinking. Food will be provided for by The Association for Retarded Citizens.

3. Abnormal oral development will be discussed followed by the viewing of videotapes of physically handicapped children sucking, swallowing, biting, and chewing foods.

4. Characteristics of cerebral palsy which impair normal oral motor skills will be discussed in addition to observing a physically handicapped child being fed. Participants will help to point out the feeding difficulties the child exhibits.

5. Communication/Interaction during mealtime will be presented.

6. Questions and Answers.

APPENDIX L

Workshop III
Techniques for Feeding the Physically Handicapped Child

The following will be discussed during Workshop III:

1. Review of normal and abnormal feeding development.

2. The selection of foods and equipment will be presented and discussed.

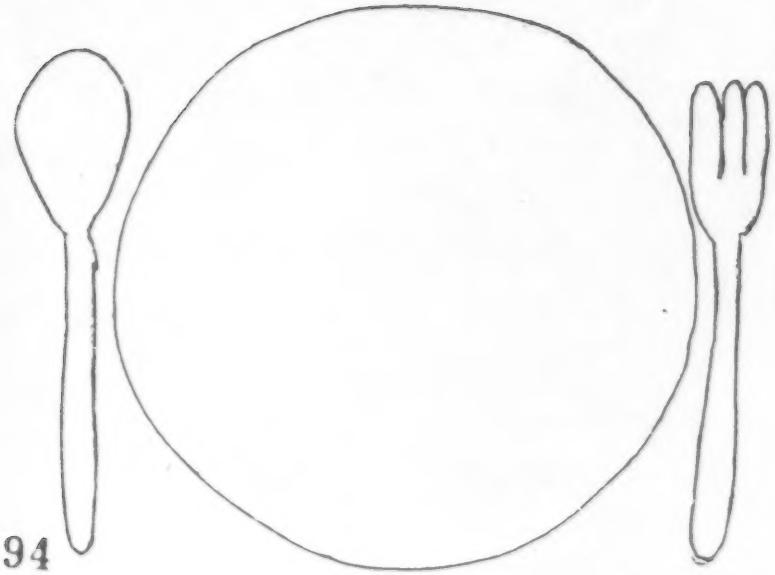
3. The nutritional concerns of the physically handicapped child will be discussed.

4. Discussion and viewing of videotapes of treatment options for feeding physically handicapped children with feeding disorders.

5. Problem solving session on suggestions to improve the feeding patterns of physically handicapped children. There will be two physically handicapped children present for the demonstration of feeding techniques.

6. Questions and Answers.

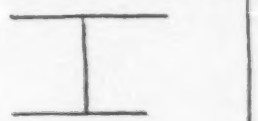
Mealtime Mat

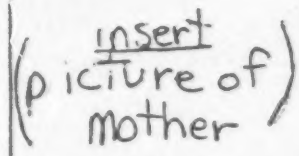


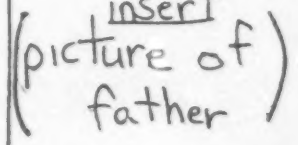
spoon plate . fork

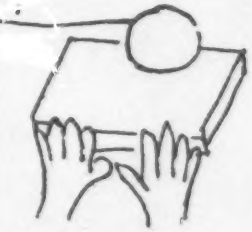
Rebus Symbols

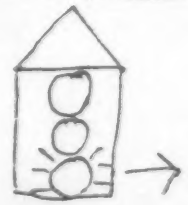
Reproduce to the size of a placemat (approximately 14"x22") Cover with clear contact











Appendix N

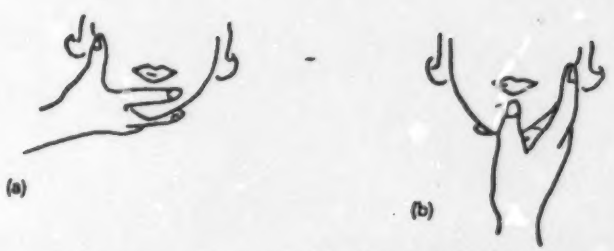
The Developmental Program

Jaw, lip, and tongue control in the face-to-face position.

Jaw, lip, and tongue control from a side position.

Connor, F.F., Williamson, G.G. & Siepp, (Eds.) Program guide for infants and toddlers with neuromotor & other developmental disabilities.

Appendix N



(a) (b)

(a) Jaw control as applied when the child is on your right side with your arm around his head: thumb on his jaw joint, index finger between chin and lowe lip, middle finger behind chin applying constant firm pressure.
(b) Jaw control as applied from the front: thumb between chin and lower lip, index finger on jaw joint, middle finger applied firmly just behind the chin.

Finnie, N.R. (Ed.) Handling the young cerebral palsied child at home.

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Appendix N

(a)

(b)

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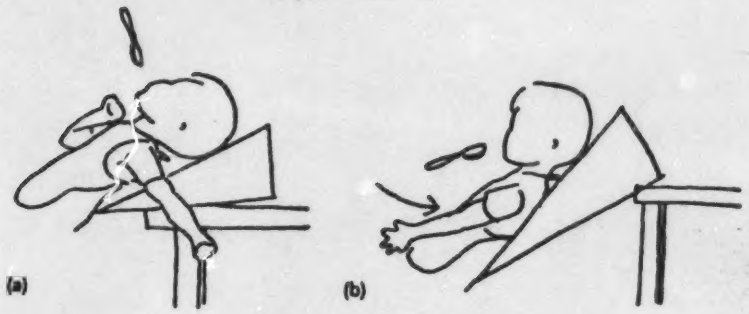
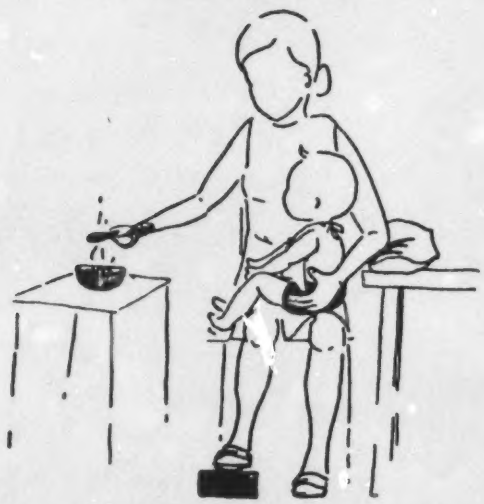
(a) Half-sitting position for the child with some sitting balance. Remember to put the food in front of him. If the child still needs support, an 'Infant Seat' can be used resting against the table edge.
(b) When sitting balance improves, sit the baby up straight with his legs abducted and his hips well flexed. You may still have to control him from the shoulders.

Finnie, N.R. (Ed.) Handling the young cerebral palsied child at home.

Appendix N



(a) *Wrong*. The baby is placed in front of mother on a foam-rubber wedge, which rests against the table-edge. Without control and when the spoon is presented from above, the baby will push his head back and cannot swallow properly.
(b) *Right*. If you put your hand flat with pressure on the baby's lower chest and present the spoon from the front, you help him to control his head and to swallow.



When feeding the baby in a sitting position on your lap, you can prevent hyperextension by putting your leg under his knees on a stool to give him more hip flexion. If he needs support on his lower back or shoulders, put your arm on a pillow on the table. The food must be in front of the child.

Finnie, N.R. (Ed.) Handling the young cerebral palsied child at home.

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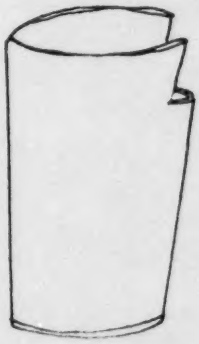
Appendix N

Click, M. & Davis, J. Moving right along.

Appendix N



Click, M. & Davis, J. Moving right along.

Appendix N

Click, M. & Davis, J. Moving right along.

Appendix O

Bibliography for Feeders

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